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(56) Documents Cited

GB 2136681 A GB 2099305 A GB 0398919 A
GB 0324237 A WO 96/26657 A1 WO 95/31154 A1
US 5348153 A US 5287584 A

(58) Field of Search

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(54) Abstract Title

Finger glove oral cleaner

(57) An oral cleaner in the form of a finger glove comprises a tubular body portion (1) of flexible, absorbent material into which a finger of a hand may be introduced at a reinforced open end (2). The closed end (1a) of the body (1) is provided with a waterproof elastomeric cap (3) on its outer surface, extending outwardly from which at intervals are a series of short bristles (4) around the radial periphery thereof. Stitched to the free end (2) of the body (1) is an elongate tab (5) which is long enough to be gripped by the hand of a person using the oral cleaner. The tab may be attached to a toothpick or dental floss.

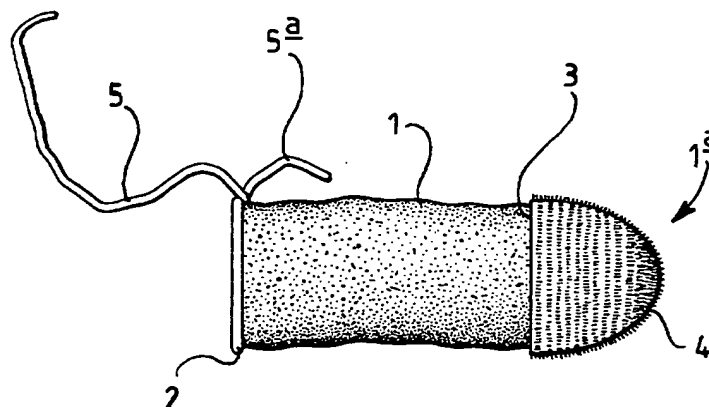
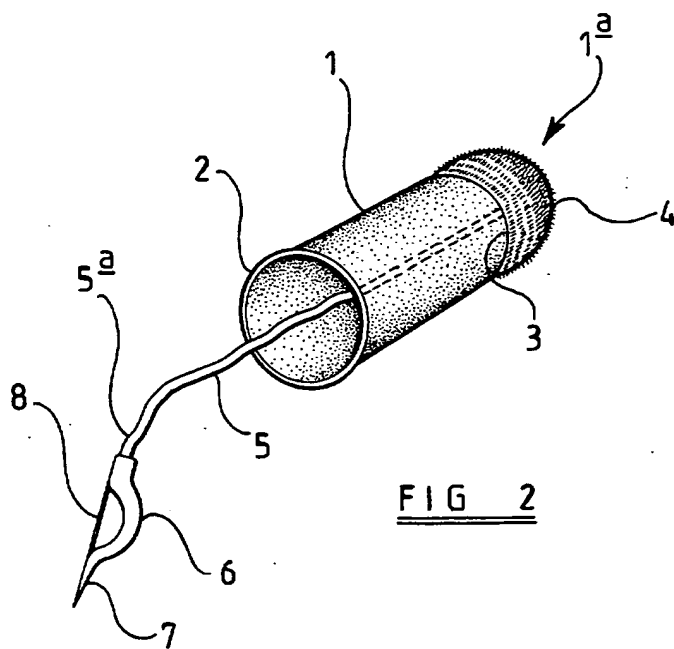
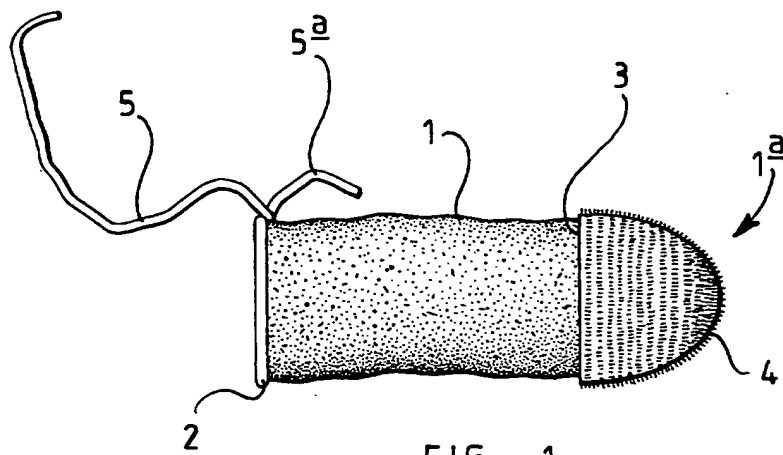


FIG 1

At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

The claims were filed later than the filing date but within the period prescribed by Rule 25(1) of the Patents Rules 1995.

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Improvements in and relating to Oral Cleaners

This invention relates to oral cleaners for use by the hand of a person.

5 Oral cleaners such as tooth brushes can be very efficiently designed to reach into an oral cavity for cleaning outer and inner surfaces of teeth and to a lesser extent surfaces in between. However, because of the generally concave shape of the mid to upper regions of an oral cavity toothbrushes are generally not suitable for cleaning parts of the mouth other than the teeth. In any event the sensitivity of the skin is far greater
10 than that of the teeth such that although a toothbrush may be perfectly suitable for cleaning a hard enamel surface then by definition such may not be suitable for cleaning the soft surfaces of the remaining part of the mouth. A significant disadvantage of this is caused by the fact that dental plaque can build up in generally all parts of the oral cavity, such as on the gums, the tongue and the roof of a mouth.

15 Although it is desirable to clean these areas mechanically nevertheless for reasons as aforesaid this is not practical with a conventional toothbrush and for this reason removal of plaque within an oral cavity on surfaces other than teeth is generally accomplished by the use of a suitable mouthwash containing anti-plaque ingredients such
20 as triclosan and sodium fluoride. Accordingly, to clean an oral cavity properly it is usually necessary to use a toothbrush with a suitable toothpaste or gel, a mouthwash and, often, dental floss for cleaning in between teeth. It is an object of the present invention to provide an alternative form of oral cleaner in which substantially all of an oral cavity can be cleaned without such complications.

According to the invention, there is provided an oral cleaner comprising a flexible glove for fitting over one or several fingers of a hand, at least part of the outer surface of the glove being adapted to clean part or all of the surfaces of an oral cavity, and means for retaining the glove on the or each finger during cleaning when the glove is placed within an oral cavity.

Conveniently, the means for retaining the glove on the or each finger of a hand comprises an elongate tab connected to part of the opening in the glove into which one or several fingers can be introduced, the free end of the tab being sufficiently long enough to be gripped by the thumb of a hand and any fingers which are not contained within the glove so as to mechanically restrain the glove during cleaning of an oral cavity by a user thereof to prevent accidental swallowing thereof.

Preferably, the glove is adapted to be fitted over a single finger and may conveniently be in the shape of a closed tube or cone, the apex of which may include a generally waterproof tip having bristles or a generally roughened surface for cleaning teeth with a least part of the remaining outer portion of the cone being comprised of a material suitable for cleaning the major surfaces of teeth as well as skin surfaces within the mouth, such as on the tongue, inside cheeks and roof of the mouth.

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The glove may include impregnated cleaning preparations or compounds such as toothpaste, toothgel or mouth cleaning or freshening ingredients, and may typically be a throw-away item. As such, it will be appreciated that the oral cleaner may be folded or rolled into a very compact space with the tab then being wound around the

outer surface such that the oral cleaner is particularly suitable for e.g. travellers or those visiting restaurants who would otherwise need to either forego oral cleaning or utilise more conventional methods to clean the mouth which are, in any event, generally incomplete as related above. Alternatively, the oral cleaner may be folded inside out such
5 that the generally waterproof tip remains hygienically stored until use, in which case the elongate tab may be attached to the inside of the tip so that after cleaning of teeth the soiled tip may then be re-covered by the glove being rolled over it with the tab retaining the tip in position until the glove is folded inside out again.

10 Whilst the requirement of the glove to be flexible is obvious, nevertheless it will be appreciated that the flexibility may be achieved using a variety of different materials, such as textile materials or even suitably resilient but nevertheless flexible paper materials, particularly where the glove is intended to be a throw-away item.

15 Similarly, it will be appreciated that the tab for retaining the glove on the or each finger of a hand may be in the form of a string or may instead be ribbon-like, but in either event the free end of the tab may include or be attached to means which may assist in retaining the glove in position during cleaning. For example, the free end of the tab may be attached to a tooth-pick and/or a stretched portion of dental floss retained on
20 a rigid former, such as a plastics bow of size sufficient to allow the dental floss to be used for cleaning between teeth.

As an alternative, the free end of the tab may be attached to means for enveloping the glove when not in use, such as a storage bag from which the glove may be

extracted for use and into which the used glove may be re-inserted and then, if appropriate, discarded.

The outer cleaning surfaces of the glove may be provided by a sufficiently
5 roughened material or there may be discrete areas into or onto which are formed or
secured bristles for cleaning hard surfaces such as teeth with the remaining portions of the
outer surface of the glove having a different characteristic, such as being made of flocking
or towelling, for cleaning more sensitive areas of the mouth or even for drying parts of the
mouth including on the outside.

10

The invention will now be described, by way of example only, with
reference to the accompanying drawings, in which:

Figure 1 is a side elevation of an oral cleaner according to a first
15 embodiment of the invention, and

Figure 2 is a perspective view of an oral cleaner according to a second
embodiment of the invention.

20 Referring firstly to Figure 1, there is shown an oral cleaner in the form of
a finger glove having a tubular body portion (1) of flexible, absorbent material such as
fluffy cotton and into which a finger of a hand may be introduced at a reinforced open end
(2) in the direction shown arrowed. The closed end (1a) of the body (1) is provided with
a waterproof elastomeric cap (3) on its outer surface, extending outwardly from which at

intervals are a series of short bristles (4) around the radial periphery thereof. Stitched to the free end (2) of the body (1) is an elongate tab (5) which is long enough to be gripped by the hand of a person using the oral cleaner i.e. when the tubular body (1) has been slid over a finger such that, thereafter, the oral cleaner can be retained in position when the oral cleaner is being used. The tab (5) has a short free end (5a) adjacent to where it is stitched to the reinforced open end (2) of the body (1) so that both ends can be tied together.

As will be apparent that the provision of the tab (5) enables the oral cleaner to be gripped by the hand such that it does not constitute a safety hazard when placed by a finger inside the mouth of a user for cleaning the surfaces of teeth and other surfaces of the mouth. Once this task is completed it is simply necessary to slide the oral cleaner from the finger whereafter the tab (5), together with the short free end (5a), may then be used to tie up the oral cleaner when it has been folded for subsequent disposal.

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In the alternative embodiment of Figure 2, the tab (5) this time extends all the way into the tubular body (1) to its closed end (1a) and is fixed to the inside of the elastomeric cap (3) on any convenient surface portion thereof. At the free end (5a) of the tab (5) is fixed a combination plastics bowed toothpick (6) having a pointed end (7) for cleaning in between teeth and a stretched filament of dental floss (8) secured across the bow of the toothpick (6). In this embodiment it will be apparent that the toothpick (6) represents a useful additional item for use with the oral cleaner, which may be followed by or substituted with use of the dental floss (8). In either event the tab (5) is still long enough to ensure that the hand of a user can grip it, but because it is attached to the inside

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of the body (1) at the elastomeric cap (3) then, after use, the open end (2) of the body (1) may be simply rolled over the finger with the tab (5) retaining the oral cleaner in place until it has been rolled completely inside out. In such position, with the used portion of the elastomeric cover (3) now on the inside of the oral cleaner it will be apparent that
5 hygienic disposal of the cleaner may then be permitted with the tab (5) simply being wound around the cleaner prior to disposal.

The invention therefore provides, in its various embodiments, an oral cleaner suitable for cleaning teeth and other surfaces within the mouth and, because the
10 material from which the body (1) can be made, such as a towelled cotton or flocked material, it will also be apparent that such may be used to dry moisture and other contaminants from around the mouth area after, typically, a meal.

It will also be understood that the oral cleaner of the invention may be used
15 in substitution for a tooth brush and attendant toothpaste/gel, in which case it may find particular utility where lightness and disposability are required, such as for use with airlines where it may be provided in a sealed container such as a plastic bag which can simply be opened, and after use the oral cleaner put bag into the bag and subsequently disposed of hygienically without the need for e.g. the washing of a toothbrush etc.. In
20 addition, the cap (3) of the oral cleaner may be pre-impregnated with a mouth cleaning agent such as toothpaste/gel, thereby obviating the need otherwise for such to be provided separately.

CLAIMS

1. An oral cleaner comprising a flexible glove for fitting over one or several
5 fingers of a hand, at least part of the outer surface of the glove being adapted to clean
part or all of the surfaces of an oral cavity, and means for retaining the glove on the or
each finger during cleaning when the glove is placed within an oral cavity.

2. An oral cleaner as claimed in claim 1, wherein the means for retaining the
10 glove on the or each finger of a hand comprises an elongate tab connected to part of the
opening in the glove into which one or several fingers can be introduced, the free end of
the tab being sufficiently long enough to be gripped by the thumb of a hand and any
fingers which are not contained within the glove so as to mechanically restrain the glove
during cleaning of an oral cavity by a user thereof to prevent accidental swallowing
15 thereof.

3. An oral cleaner as claimed in claim 2, wherein the tab includes dental
floss.

- 20 4. An oral cleaner as claimed in claim 2, wherein the tab includes a
toothpick.

5. An oral cleaner as claimed in claim 2, wherein the tab includes a storage
bag.

6. An oral cleaner according to any one of the preceding claims, wherein the glove is adapted to be fitted over a single finger.
7. An oral cleaner according to any one of the preceding claims, wherein the shape of the oral cleaner is a closed tube.
8. An oral cleaner according to any one of the preceding claims, wherein the shape of the oral cleaner is a cone.
9. An oral cleaner as claimed in claim 8, wherein the apex of the said cone includes a generally waterproof tip having bristles or a generally roughened surface for cleaning teeth with at least a part of the remaining outer portion of the cone being comprised of a material suitable for cleaning the major surfaces of teeth as well as skin surfaces within the mouth, such as on the tongue, inside cheeks and roof of the mouth.
10. An oral cleaner according to any one of the preceding claims, wherein the glove includes impregnated cleaning preparations or compounds such as toothpaste, toothgel or mouth cleaning or freshening ingredients.
11. An oral cleaner according to any one of the preceding claims, wherein the oral cleaner is a throw-away item.
12. An oral cleaner as claimed in claim 11, wherein the oral cleaner can be folded or rolled into a very compact space.

13. An oral cleaner as claimed in claim 12, wherein the said retaining means can secure the outer surface to prevent unwanted unfolding.

14. An oral cleaner as claimed in claim 11, wherein the oral cleaner can be
5 folded inside out such that the generally waterproof tip remains hygienically stored until use.

15. An oral cleaner as claimed in claim 14 when dependant on any one of claims 2 to 5, wherein the elongate tab may be attached to the inside of the tip so that
10 after cleaning of teeth the soiled tip may then be re-covered by the glove being rolled over it with the tab retaining the tip in position until the glove is folded inside out again.

16. An oral cleaner substantially as hereinbefore described with reference to the accompanying drawings.



INVESTOR IN PEOPLE

Application No: GB 9918625.6
Claims searched: 1-16

Examiner: Peter Davey
Date of search: 15 November 2000

Patents Act 1977 Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK CI (Ed.R): A4K (KFX), A5R (RDQ1)

Int CI (Ed.7): A46B 5/04, A61C 15/00 15/02 15/04 17/00

Other: Online: WPI, EPODOC, JAPIO

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
X	GB 2136681 A (IVES), see eg. page 1, lines 30-34 and Fig. 1	1, at least
X	GB 2099305 A (WELSH), see eg. page 1, lines 79-83 and Fig. 1	"
X	GB 398919 (DENNEY), see eg. page 2, lines 81-85 and Fig. 3	"
X	GB 324237 (BELL), see eg. claim 1 and Fig. 1	"
X	WO 96/26657 A1 (REINOLD), see eg. the abstract and Fig. 1	"
X	WO 95/31154 A1 (MITTIGA), see eg. Fig. 3	"
X	US 5348153 (COLE), see eg. col. 4, lines 57-61 and Fig. 2	"
X	US 5287584 (SKINNER), see eg. claim 1 and Fig 1	"

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.